

Notice of Allowability	Application No.	Applicant(s)	
	10/053,460	MOSZNER ET AL.	
	Examiner Marc S. Zimmer	Art Unit 1712	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS**. This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. This communication is responsive to 02/15/06.

2. The allowed claim(s) is/are 1-7,9-11 and 14.

3. Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some* c) None of the:

1. Certified copies of the priority documents have been received.

2. Certified copies of the priority documents have been received in Application No. _____.

3. Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

(a) including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
1) hereto or 2) to Paper No./Mail Date _____.

(b) including changes required by the attached Examiner's Amendment / Comment or in the Office action of
Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- 1. Notice of References Cited (PTO-892)
- 2. Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3. Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
- 4. Examiner's Comment Regarding Requirement for Deposit
of Biological Material
- 5. Notice of Informal Patent Application (PTO-152)
- 6. Interview Summary (PTO-413),
Paper No./Mail Date _____.
- 7. Examiner's Amendment/Comment
- 8. Examiner's Statement of Reasons for Allowance
- 9. Other _____.

Marc Zimmer
MARC S. ZIMMER
PRIMARY EXAMINER

Allowable Subject Matter

Applicant has amended claim 1 so that is now requires that the composition of claim 1 further contain a filler. The Examiner agrees with Applicant's assessment of the validity of Nass et al. in view of the amendments made. Accordingly, the rejections over this reference are hereby withdrawn. The Examiner also agrees that the publication authored by Schubert et al. does not constitute art under 35 U.S.C 102(e) and, further, is unavailable under paragraph (a) inasmuch as it is Applicant's own work.

The Examiner has resurveyed the art and made the determination that the claims now appear to be patentable. There appear to be a number of references, only some of which are actually prior art, teaching the preparation of composite materials wherein a metal cluster has been derivatized by way of reaction with some chelating compound bearing polymerizable moieties and, subsequently, polymerization with an organic monomer but this is the entire focus of these disclosures and there is no mention of the introduction of other additives into the polymer matrix. Indeed, these composites appear to be, thus far, largely an academic curiosities. See, for instance, "Inorganic Clusters in Organic Polymers and the use of Polyfunctional Inorganic Compounds as Polymerization Initiators" (and the references contained therein) which was published in *Monatshefte fuer Chemie* (2201, 132(1), pg. 13-30, an abstract for which is attached. Other similar composites are taught in "Hybrid Organic-inorganic Copolymers based on Oxo-hydroxo Organotin Nanobuilding Blocks" *Journal of Sol Gel Science and Technology* (1997), 8(1/2/3), 529-522 (abstract enclosed), "Crosslinking of Poly(methyl methacrylate) by the Methacrylate-Substituted Oxo-zirconium Cluster

$\text{Zr}_6(\text{OH})_4(\text{methacrylate})_{12}$ " authored by Schubert et al. and published in *Chem. Mater.* (2000), 12, pg. 602-604, and "Polymers Reinforced by Covalently Bonded Inorganic Cluster" authored by Schubert et al. and published in *Chem. Mater.* (2001), 13, pg. 3487-3494 and the references cited therein.

Patent documents of some interest are Su et al., U.S. Patent # 6,492,540, Golden et al., U.S. Patent # 5,589,537, and Ito et al., U.S. patent # 6,555,640. Su discloses similar composites that actually feature acryl moieties as the polymerizable function of the inorganic cluster but they are not attached to the cluster through a chelating bond. Golden actually teaches at least one composition comprising a metal cluster featuring polymerizable moieties attached to the metal framework via chelating residue, copolymerizable monomer, and an initiator but, like Nass, does not contemplate the further addition of a filler. (It should be said for the record that the Examiner fully appreciates that the incorporation of fillers is ubiquitous in the polymer composition art but it is perceived that, in these cases, the clusters are intended to serve the role of a filler and, hence, there is no clear motivation to add another filler where one is not expressly mentioned.)

The references cited during this prosecution represent the most germane known. Because they fail to even render obvious the claimed invention, claims 1-7, 9-11, and 14 are considered allowable.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc S. Zimmer whose telephone number is 571-272-1096. The examiner can normally be reached on Monday-Friday 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

March 24, 2006



MARC S. ZIMMER
PRIMARY EXAMINER